



ELDER BILL BETTIS, from Oklahoma, puts the finishing touches on a special vacuum cleaner the Boyles Bros. Drilling Company of Salt Lake City, built from an idea they got from Provo City's street cleaning vacuum. It will be used in the four-mile Strawberry aqueduct tunnel now under construction. Bill Marrs, tunnel superintendent swings the boom far to the side. (Herald staff photo by Jerry Young)

Provo's Gutter Cleaner Inspires Device to Speed Up Construction

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By JERRY YOUNG

That great green monster that Provoans take for granted it sucks away leaves and debris from city gutters has inspired a new device which the Boyles Bros. Drilling Company is just started using to construct the Strawberry Aqueduct. The same company is using the giant mechanical mole to bore through the sandstone, shale or conglomerate rock they've found as they've drilled roughly three of the four miles. Every 500 feet they stop to clean up, set in the steel reinforcing and pour the sub-invert, floor.

Hand Shoveling

The cleaning detail is by far the most tedious. Three, sometimes four shifts of 19 men have to get in and shovel out the muck left by the mole. The company knew it needed something better.

So when it became known that Provo was using a suction device to clean gutters, they inspected it, and turned the matter over to their machine designer, Paul Sherrick. He built a special suction car to meet the need. The whole works can be hauled into the 13 foot tunnel by one of the electric powered trains.

The car itself weighs 10 tons empty and the first model will hold an additional 10 tons of rocks and muck. Near the rear of the car, on a platform behind the debris box, are the fans, a hydraulic pump, a 150 horsepower electric motor and a connection box where they

tie in the huge electric cable to power the whole thing.

That electric motor runs on 440 volts and 190 amps, or for those of us who don't know anything about electricity, about four times what a regular home would use if it was wired for 220 for electric stoves or heating); or about 8 times the amount used by a house wired for 110 (for general lighting, television, etc.).

The two giant fans turn at a speed of 3,600 RPM's and because they run inside a compartment that gets smaller and smaller, there is not only movement of air, but compression as well.

Sucks Anything

That means that the boom mechanism on the front of the car, with the attached hose can suck up anything that gets close to it, so long as the object can pass through the eight-inch hose. In a test outside the welding shed where it was built, the vacuum car sucked up a pile of dirt and mud faster than the operator could swing the boom around. "It will take a little getting used to," was the remark the operator made as he shook his head, not being able to believe how clean the ground was where he'd been working.

The car cost the Boyles company some \$28,000. to build. It was a considerable savings over the \$75,000, they were quoted by another company to build the same thing.

The only thing they have to do now is modify the experi-

mental car so it will damp the load of muck it sucks up. From the way the designer talked, this would be an easy thing to do. The hard part is over.

So, today, the Boyles company has a new piece of equipment they can use to save time and money. When they started into the mountain just northeast of the Strawberry Reservoir, they didn't have any such thing. They will finish the last mile of the tunnel on schedule, this November about a year from the time they started.

But the last mile is going to go a little faster, as will all the other miles the company will drill in the future. And they owe it all to having seen and studied the Provo City green monster as it wheeled around town, wheezing and whistling going about its own mundane job.

The Daily

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ay Noon et Alarm

he sirens at all fire department communities will be sounded in Civil Defense attack warning County.

unities are reminded of the firemen, so that they will sounding the alert for a fire. Civil director, said the exercise has three purposes: to test the familiarize residents of the area, and to ascertain any portion the attack warning signal

of three to five minutes of sirens. The exercise will not on the part of the general

Springville Activities Morning

SPRINGVILLE — Dr. Curtis Val Alfen, assistant dean of the College of Education at BYU, will be the guest speaker Tuesday at the third annual business-education breakfast sponsored by the Springville Chamber of Commerce.

Invitations have been extended to all teachers in the Springville and Mapleton schools to attend a 7 a.m. meeting in the

Marines Drive VC From Base

SAIGON (UPI) — Attacking Viet Cong commandos cut through the barbed wire around a U.S. Marine base and planted the Communist flag inside the American camp before defenders drove them off, military spokesmen said today.

Far to the south near Saigon, U.S. troops killed 76 Communist troops in a seven-hour battle involving helicopters, jets and artillery.

American infantrymen Sunday pushed the last 1,000 yards to the wreckage of a crashed U.S. helicopter and found the bodies of eight Americans, including Associated Press Photographer Oliver Noonan, 29, of Norwell, Mass.

The American troops had fought for six days to reach the helicopter, shot down last Monday.

It was the second Viet Cong attack on the Marine base at the outskirts of Da Nang in seven months. As the 10-man commando squad cut the barbed wire and charged, tossing explosive charges in bags, the Marines called in U.S. fighter bombers from Da Nang airbase.

The Viet Cong managed to plant their own flag beside a U.S. bunker before they were driven out of the enclosure by gunfire. One Marine was killed and three wounded in the 90 minutes of fighting. Five Viet Cong were killed and two captured.

Communist troops ambushed a U.S. 4th Infantry Division Highway 19 near An Khe 260 miles northeast of Saigon. The Communist force of 20 men fired small arms and rocket-propelled grenades and the Americans fought back with heavy machine guns mounted on armored personnel carriers and called in artillery strikes.

Two Americans were killed and four wounded. The Communist losses were undetermined.

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TAKE A BREAK FROM the at the Ohio State Fair in Col Holler and her pup, seems to cone. Since the Ohio State Fair perfect and crowds are at record

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